

What is claimed is:

1. A vehicle seat arrangement having a plurality of air cells therein for supporting a user characterized by:

a plurality of air cells with expandable chambers comprising a  
5 fixed array; a controller for connecting said plurality of air cells and a fluid supply system that includes fittings for cutting off one or more of the air cells from the controller to conform the fixed array of air cells to one of a plurality of vehicle types.

10 2. The vehicle seat arrangement of claim 1 further characterized by said fixed array being part of a modular seating unit; said modular seating unit including a pump, supply hoses, and a wiring harness; a connection for securing said wiring harness to a controller; said controller comprising one of a plurality of different function controllers selected to provide  
15 different user preference operation of said modular seating unit.

3. The vehicle seat arrangement of either claim 1 or claim 2 wherein said controller is programmed to have target pressures attained by using a programmed time of inflation or deflation of the expandable chambers as  
20 established by desired program sequences of operation by the controller.

5. The vehicle seat arrangement of claim 3 wherein the valves are provided and said controller is programmed to have a programmed time of inflation or deflation established by sequentially activating said valves  
25 individually and energizing said at least one pump for predetermined periods, and varying the number and location of the expandable chambers pressurized in the more than one expandable chambers producing localized pressures exerted on a supported member;

30 6. The vehicle seat arrangement of claim 1 including a pressure source and an exhaust system to provide a pneumatically controlled

support surface for the seating or body support system and wherein the massage movement includes a sequence of inflate and deflate between the respective expandable chambers of the more than one expandable chambers so as to provide concentrated massage while maintaining a directional movement of the  
5 expandable chambers producing the massage action.

7. The vehicle seat arrangement of claim 6 including providing the more than one expandable chambers as a series of expandable chambers and providing more than one user selected massage type and a  
10 preprogrammed manner of individual expandable chamber inflation and deflation to produce either a pulse type control of individual expandable chambers in both inflate and deflate steps through the series of expandable chambers so as to produce the aforesaid concentrated massage action.

15 8. The vehicle seat arrangement of claim 1 further characterized by providing an inflate switch and a deflate switch and wherein the control sequence is initiated by signals from said inflate and deflate switches to said controller and wherein a manual inflate or deflate control is established by inputting the controller with input signals from manual operation of the inflate or  
20 deflate switches and wherein the controller is preprogrammed to provide a timed inflate and exhaust of the expandable chambers.

9. The vehicle seat arrangement of claim 1 further characterized by providing one expandable chamber as a lower lumbar  
25 expandable chamber, an upper lumbar expandable chamber and a middle expandable chamber and wherein the pressure source and exhaust system are controlled by an automatic controller controlled sequence of massage in which the sequence includes fully inflating the lower lumbar expandable chamber; then transferring the air from such lower lumbar expandable chamber to the upper  
30 lumbar expandable chamber and then to the middle or third expandable chamber and following such inflation deflating each of the multiple expandable chambers

from the upper expandable chamber down to the lower expandable chamber and repeating the aforesaid automatic massage for a timed period.

10. The vehicle seat arrangement of claim 9 further  
5 characterized by depressing the switches for a predetermined period of time to stop the automatic massage action.

11. The vehicle seat arrangement of claim 1 further characterized by to providing sensors and other switches and a controller  
10 operative in response to multiple input signals including one or more of an occupant detection condition; a temperature condition; system power-up; on-off switch and a system override switch.

12. The vehicle seat arrangement of claim 1 further  
15 characterized by a providing a pressurized manifold; providing dual valves between the pressurized manifold and the one or more expandable chambers for controlling air flow from a supply manifold or to exhaust the one or more expandable chambers.

20 13. The vehicle seat arrangement of claim 1 further characterized by the pressure source including a pump supplying the manifold; and operating the pump during exhaust from the one or more expandable chambers to back pressure the manifold.

25 14. The vehicle seat arrangement of claim 12 including providing the one or more expandable chambers as at least first second and third expandable chambers; providing a massage sequence including deflating all of the expandable chambers; connecting the pressurized manifold to the first expandable chamber; deflating the first expandable chamber while inflating the  
30 second expandable chamber; deflating the second expandable chamber while inflating the third expandable chamber; deflating the third expandable chamber

while inflating the second expandable chamber and deflating the second expandable chamber; repeating the aforesaid massage sequence.

- 5               15. The vehicle seat arrangement of claim 12 including providing the one or more expandable chambers as at least first second and third expandable chambers; providing a massage sequence including deflating all of the expandable chambers; connecting the pressurized manifold to the first expandable chamber to inflate the first expandable chamber; deflating the first  
10 expandable chamber while inflating the second expandable chamber; deflating the second expandable chamber while inflating the third expandable chamber; deflating the third expandable chamber and repeating the aforesaid massage sequence.